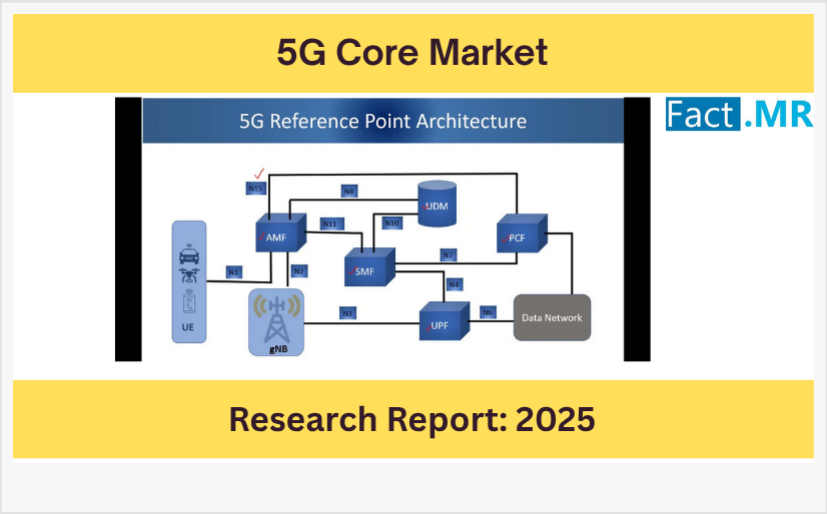
5G Core Market to Surge to USD 35,011 Million by 2035, Growing at a CAGR of 24.8%

Analysis of 5G Core Market Covering 30+ Countries Including Analysis of U.S, Canada, UK, Germany, France, Nordics, GCC countries



ROCKVILLE, MD, UNITED STATES, July 2, 2025 /EINPresswire.com/ -- The global 5G core market, valued at USD 2,815 million in 2024, is projected to grow at a robust compound annual growth rate (CAGR) of 24.8%, reaching USD 35,011 million by 2035, according to an updated analysis by Fact.MR. The 5G core (5GC), the backbone of next-generation 5G networks, is driving this explosive growth by enabling advanced capabilities such as network slicing, ultra-low latency, and sophisticated service orchestration, unlocking transformative connectivity across industries.

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Powering Next-Generation Connectivity with 5G Core

The 5G core (5GC) is the heart of 5G mobile networks, providing reliable, secure, and high-speed connectivity to end users while supporting a wide range of services. Unlike its predecessor, the 4G Evolved Packet Core (EPC), the 5GC is fully software-based, cloud-native, and designed to support high data rates, low latency, and massive device connectivity. It facilitates advanced use cases such as Enhanced Mobile Broadband (eMBB), Ultra-Reliable Low Latency Communications (URLLC), and massive Machine-Type Communications (mMTC), enabling applications like autonomous vehicles, smart cities, and real-time gaming.

From 2020 to 2024, the 5G core market grew at a CAGR of 26.7%, reaching USD 2,815 million by 2024. The forecast period from 2025 to 2035 is expected to create an absolute opportunity of USD 32,196 million, driven by the global rollout of 5G networks, the proliferation of Internet of Things (IoT) devices, and increasing demand for high-speed, low-latency connectivity. The

solution segment, encompassing core network functions like Access and Mobility Management Function (AMF) and Session Management Function (SMF), is projected to dominate, growing at a CAGR of 25.5%.

Key Drivers of Market Growth

Global 5G Network Rollout

The rapid deployment of 5G networks worldwide is a primary driver of the 5G core market. Countries like the U.S., China, Japan, and South Korea are leading the charge, with significant investments in 5G infrastructure. The U.S. accounted for over 36% of the global market share in 2021, driven by the need for cloud-native, service-based architectures and the surge in data traffic from video streaming and cloud services. The global push for 5G is fueled by consumer demand for high-speed connectivity and the need for robust infrastructure to support emerging technologies.

Proliferation of IoT and Industry 4.0

The exponential growth of IoT devices, projected to exceed 75 billion by 2030, is driving demand for 5G core networks capable of handling massive device connectivity and low-latency requirements. Industries such as manufacturing, healthcare, and transportation are adopting 5G core solutions to support real-time applications like robotic surgeries, autonomous vehicles, and smart factories. The integration of 5G with edge computing further enhances data processing capabilities, enabling real-time decision-making and automation.

Network Slicing and Cloud-Native Architecture

The 5GC's ability to support network slicing—creating virtual networks tailored to specific use cases—sets it apart from previous generations. This flexibility enables telecom operators to deliver customized services for industries like gaming, healthcare, and logistics. Cloud-native architectures, leveraging technologies like Network Function Virtualization (NFV) and microservices, enhance scalability and reduce operational costs, making 5G core solutions attractive to service providers. For instance, Ericsson's dual-mode 5G core solution supports 2G to 5G networks, offering seamless migration and enhanced security.

Strategic Industry Innovations

Leading players like Ericsson, Nokia, Huawei, Samsung, and ZTE are driving innovation through strategic partnerships and product launches. In March 2024, Nokia's collaboration with Intel to integrate Xeon 6 processors into its 5G core solutions achieved up to 150% performance improvements and 60% energy savings, highlighting the industry's focus on efficiency and sustainability. Similarly, Huawei's 5G Core was rated a "Leader" by GlobalData in March 2024, achieving perfect scores for its cloud-native architecture and comprehensive 2G-to-5G service

integration.

Regional Insights: Asia-Pacific and North America Lead

The Asia-Pacific region, particularly China, Japan, and South Korea, is the fastest-growing market, driven by aggressive 5G rollouts and government support. China, with a 47.5% share of the East Asian market in 2024, is leveraging initiatives like smart city development to boost 5G core adoption. The region is expected to grow at a CAGR of 25.2%, supported by companies like Huawei and ZTE.

North America, led by the U.S., is a key market, projected to hold a 27% share by 2035. The region's growth is driven by investments in 5G infrastructure, including fiber-optic cables and small cells, and the adoption of private 5G networks for enterprise applications. Europe is also advancing, with Germany and the UK focusing on industrial 5G applications like smart manufacturing and logistics. Emerging markets in Latin America and the Middle East & Africa are showing potential as 5G coverage expands.

Industry Trends and Innovations

The 5G core market is characterized by several transformative trends:

Network Slicing: Enables tailored virtual networks for diverse applications, from high-bandwidth video streaming to low-latency autonomous driving.

Edge Computing Integration: Enhances real-time data processing, critical for IoT and Industry 4.0 applications.
Cloud-Native Solutions: Adoption of containerized and NFV-based deployments improves scalability and reduces costs. Samsung's cloud-native 5G core, for example, supports both standalone (SA) and non-standalone (NSA) architectures.

Security Enhancements: With increasing cyber threats, providers are investing in encryption, firewalls, and intrusion detection systems to secure 5G core networks.

Recent developments underscore the market's dynamism. In February 2021, Nokia launched its DelOps initiative to streamline 5G core software delivery, enhancing operational efficiency for telecom operators.

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Challenges and Opportunities

The 5G core market faces challenges, including high infrastructure costs for deploying advanced

radio equipment, base stations, and specialized antennas. Cybersecurity risks, exacerbated by the complexity of virtualized networks, are a growing concern, with global enterprises investing 5-10% of their IT budgets in private 5G network security. The semiconductor shortage and supply chain disruptions, intensified by the COVID-19 pandemic, have also delayed deployments in some regions.

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